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An anterior solid zirconia crown

Michael DiTolla, DDS, FAGD

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BruxZir® Solid Zirconia crowns and bridges were originally designed by Glidewell Laboratories for use in the posterior to replace cast gold or metal occlusals when the patient did not want any metal showing in his or her mouth. As dentists began placing BruxZir restorations and were repeatedly satisfied with the results, they started to prescribe BruxZir for bicuspid as well. The lab realized it needed to increase the translucency of this material if dentists wanted to use it in the anterior.

Glidewell's R&D team members worked on this and told me when they were ready to test it. They asked me for an esthetic challenge, so I decided to give them the tough one we all face: the single-unit central incisor crown adjacent to a natural tooth. The photos show the clinical steps for this anterior BruxZir crown. For a crown that is 100% zirconia with no ceramic facing, I think the lab pretty much nailed it.

Figure 1: Tooth No. 9 is to be prepped for a BruxZir Solid Zirconia crown. I chose this case for a couple of reasons. First, tooth No. 8 is a natural tooth, and will be a good test of how the light interacts with the BruxZir restoration versus the natural tooth. Second, tooth No. 7 is an all-ceramic crown, which will be replaced later, and teeth Nos. 10 and 11 are a PFM cantilever bridge. So, we can also compare the BruxZir crown to those two restorations.

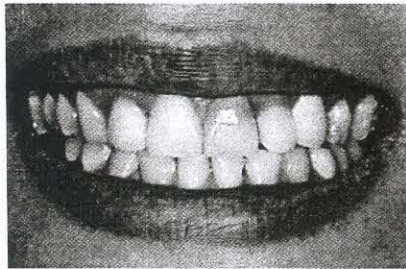


Figure 2: At this point, depth cuts are finished: 2 mm at the incisal edge, 1.5 mm at the junction of the incisal and middle thirds, and a 1 mm half-circle reduction at the gingival margin. This lets me fly through the rest of the prep because the gingival is essentially done. The incisal edge takes about 15 seconds, and the facial reduction is marked with a depth cut. There is no guessing about how much to reduce.

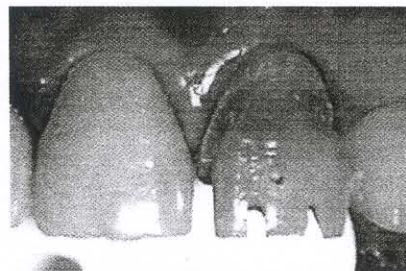


Figure 3: At this point, the prep is essentially done. When the top cord is in place, you have a final opportunity to get a great look at the prep. Typically, I spend about 45 seconds polishing the prep, especially the gingival margin. I again turn the handpiece down to 5,000 RPM and the water off, and I use a red-striped fine grit 856-025 bur to give the prep a mirrorlike finish.

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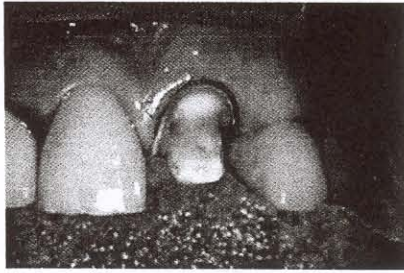


Figure 4: The result of leaving the top cord in for eight to 10 minutes is a sulcus that cannot be missed with an intraoral tip. I am pretty sure I could fling alginate into the sulcus from the other side of the operator and still get a good impression. When your assistant pulls the top cord, look down from the incisal with a mirror to see what I mean. You will see the impression material flow into the sulcus.

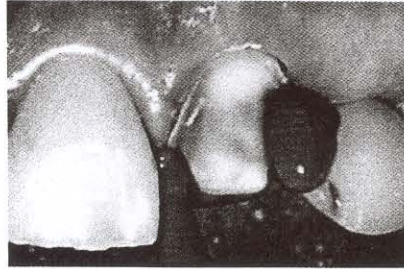


Figure 5: I try in the BruxZir Solid Zirconia crown on tooth No. 9 and find the fit to be acceptable. The patient has approved the esthetics, so we clean it out prior to cementation. I decide to cement the restoration rather than bond it into place because I have sufficient prep length and it is not overtapered. I use RelyX™ Luting Plus Cement (3M ESPE; St. Paul, Minn.) because of its natural bond to dentin and simple cleanup. A pinewood stick is used to provide pressure while the cement sets. The inside of the crown is coated with Z-Prime Plus from Bisco to enhance the bond of the cement to the zirconia crown.

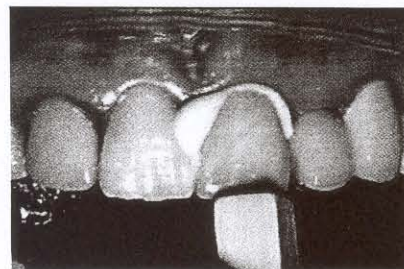
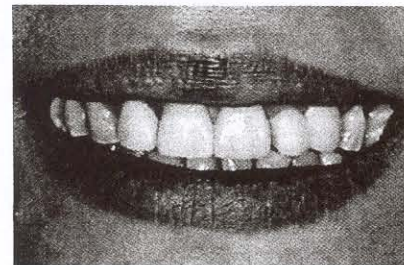


Figure 6: This is the final BruxZir Solid Zirconia restoration on tooth No. 9 on the day of cementation. It probably won't be mistaken for a natural tooth, but it blends well with the adjacent natural tooth, tooth No. 8. When I compare it to the existing all-ceramic and PFM crowns in the anterior segment, I think it looks better, although those other crowns are a few years old. While I don't recommend that you jump into prescribing BruxZir for single-unit central incisors, I think BruxZir is one step closer to being a material that is as well suited for anterior restorations as it is for posterior restorations.



Dr. Michael DiTolla is the Director of Clinical Research and Education at Glidewell Laboratories in Newport Beach, Calif. He lectures nationwide on both restorative and cosmetic dentistry. Dr. DiTolla has several free clinical programs available online or on DVD at www.glidewell dental.com.

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February 2011, Volume 2, Issue 2

Published by AEGIS Communications

Tosoh Recognizes BruxZir®

Tosoh Corp presents prestigious "Best Product Innovation Award" to Glidewell Laboratories for BruxZir solid zirconia.

Glidewell Laboratories received Tosoh Corporation's 2010 "Best Product Innovation Award" in the Advanced Ceramic category for BruxZir Solid Zirconia.

Yutaka Nakamura, president of Tosoh America, Takaaki Kawakami, and Jay Thomas presented the award to Jim Glidewell, CDT, president and owner of Glidewell Laboratories, and Robin Carden, senior director of Research & Development, at the laboratory's Newport Beach, Calif., headquarters on December 6, 2010. The award, which stands nearly 2 feet tall, is a plaque made with the largest piece of black zirconia ever produced by Tosoh. Formed at high pressure, sintered at over 1500°C, and then polished and engraved with an acknowledgment formally recognizing the BruxZir material, the plaque itself is both impressive and unique.

Tosoh, headquartered in Tokyo, Japan, is the world's leading supplier of quality, high-purity zirconia. Over the past 4 years, Glidewell Laboratories has worked with Tosoh's zirconia material to develop BruxZir solid zirconia.

Glidewell Laboratories' 66-person Research & Development team was instrumental in the development of BruxZir and used innovative processes to refine Tosoh zirconia to a significantly reduced grain size, which increases the strength and optical properties of BruxZir. This team, which includes PhDs in material science and engineering, dentists, and dental technicians, used the latest material advancements in conjunction with proprietary, groundbreaking processes to create dental restorations that exhibit lifelike vitality and chip-proof strength.

Tosoh chose BruxZir Solid Zirconia for this honor because of the inventive processes employed by Glidewell Laboratories that have repurposed how zirconia is used in dentistry. While zirconia has become a preferred restorative material, the June 2009 release of BruxZir has further enhanced this material in both form and function. Unlike conventional dental restorations that start with a metal base and then are overlaid with porcelains, BruxZir is a solid, monolithic zirconia crown that is fabricated using CAD/CAM technology.

BruxZir solid zirconia has quickly gained the attention of the dental community due primarily to its strength and superior esthetics when compared to metal-based restorations for patients who brux and grind their teeth.

The award, which stands nearly 2 feet tall, is a plaque made with the largest piece of black zirconia ever produced by Tosoh.

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Figure 1



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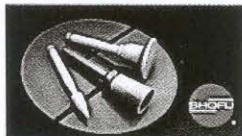


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MobileTek Dental Labs Added to New York Authorized BruxZir Lab List

New York, NY, May 20, 2011 --(PR.com)-- MobileTek Dental Labs, New York City's most innovative dental lab, has been added to the list of Authorized BruxZir Labs. BruxZir Solid Zirconia is a full-contour solid zirconia crown or bridge with no porcelain overlay. This new restoration proves strong, reliable and aesthetic results because of the science behind its composition. As an Authorized BruxZir Lab, dentists are guaranteed that MobileTek Dental Labs uses authentic BruxZir Solid Zirconia for the fabrication of solid zirconia dental restorations.

"We are proud to be one of the few New York City Tri-State area labs offering authentic BruxZir restorations to our dentist clients. The material has become very popular in the last year, for its strength, reliability and surprisingly good aesthetics," said David Birnbaum, Owner of MobileTek.

Since its release, BruxZir has gained the attention of the dental community due primarily to its strength and superior aesthetics when compared to metal-based restorations for patients who brux or grind their teeth. BruxZir is a Dentistry Today Top 100 Product. The strength, high fracture toughness, resistance to thermal shock and translucency of BruxZir Solid Zirconia dental restorations have contributed to its rampant success in the dental profession.

Marisa Birnbaum, MobileTek's Chief Technician and Director of Lab Operations added, "Our dentist clients are very pleased with BruxZir restorations - the monolithic strength of the material allows them to work with standard PFM preparations. Our CAD/CAM tools and processes give us great control of the final restoration."

MobileTek Dental Labs, based in New York City, is a privately owned corporation that provides high-quality lab service to dentists. Using a smart mix of CAD/CAM technology and "old school" lab techniques, MobileTek provides a wide array of lab services including BruxZir, EMAX lithium disilicate, dental implants and night guards. For more information, visit <http://www.MobileTekLabs.com>.

###

Contact Information

MobileTek Dental Labs
David Birnbaum
917-747-7519

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Whip Mix and Glidewell are proud to announce a new partnership for the dental laboratory industry.



Immediately you can contact Whip Mix for the fabrication of BruxZir full contour Zirconia restorations, BruxZir blocks for milling, Inclusive abutments, Inclusive bars, and other Inclusive restorative components.

Jim Shuck: "This partnership between our two companies marks the beginning of a great relationship. Whip Mix has always been known as company that will

do anything to take care of their dental laboratory customers. We believe dental laboratories will find it advantageous to be able to provide their dentists with the top selling brand of full contour zirconia, BruxZir. Considering the skyrocketing cost of precious metals, it is a perfect time to offer dentists the lower cost option of full zirconia restorations".

Stuart Steinbock: "Working with Glidewell is really exciting for Whip Mix. Glidewell has consistently shown that they bring world class innovation to the dental market through their unique R&D capabilities and real world feedback with the number of cases that they process each day. Both BruxZir and Inclusive product lines are quality products and we are proud to be able to offer both to our customers".

Whip Mix is now one of only two authorized BruxZir Milling Facility's for laboratories located in the Eastern Time Zone. This enables us to extend service for those labs that need help during those business hours. Additionally, Whip Mix is located adjacent to a major UPS Hub, enabling fast shipping..

Founded in 1919, Whip Mix manufactures Hanau™, Denar® and Whip Mix articulators, dental gypsums, investments, waxes, furnaces, Jelrus burnout ovens, mixing equipment and model trimmers for use in dental labs and dental offices. Whip Mix, headquartered in Louisville, Ky, is ISO9001-2008 certified and sells its products through distributors in over 80 countries and also maintains an office and distribution center in Dortmund, Germany. For more information visit www.whipmix.com.

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Moving To Monolithic

New price-competitive materials and techniques give laboratories affordable and automated CAM solutions.

Chip-proof, esthetic, strong, biocompatible, durable, price-competitive—these are just a few of the qualities that have many laboratories turning to full-contour crowns and bridges produced from CAD/CAM-milled monolithic materials. These restorative solutions have no porcelain overlay material to risk shear or fracture, nor do they require specialized pressing techniques and equipment. They are constructed of solid monolithic zirconia, solid ceramic, or a combination of the two materials fused into a solid structure that can withstand the chewing forces of the posterior regions of the mouth and yet exhibit the esthetic qualities demanded in the anterior. Better yet, they bring laboratories a step closer to full automation and can be sold at a price that is competitive with offshore products.

"I think the ability of manufacturers to provide customers with a material that, when finished, is price-competitive with offshore products makes milling full contour so attractive," says Rita Acquafredda, vice president and general manager of Zahn Dental. The company is now introducing a full-contour solution (www.zahndental.com) that gives dental laboratories two options—they can outsource it to the CMC Milling Center in Arvada, Colorado, by sending their .STL scan files or a model, or they can purchase the material as a milling disc for in-house production. Any CAD/CAM system that accepts a 100-mm milling disc can mill the material, with each disc producing anywhere from 33 to 44 single crowns. Soon, the discs will also be available in a 98-mm disc size.

Full-contour zirconia restorations first appeared on the market in February 2010 with Glidewell's BruxZir® Solid Zirconia crowns and bridges (www.bruxzir.com). Designed for patients who grind their teeth and typically destroy conventionally processed crowns or bridges, BruxZir restorations claimed indestructibility with their high strength and durability. Now the rest of the market is following suit, with a host of new indications for zirconia and all-ceramic products.

What held the market in limbo for nearly a year were concerns that zirconia had the potential to wear down natural dentition at a much faster rate than conventional indirect materials if it were not treated properly. But it seems those fears have been abated as several manufacturers have or are planning to get into the full-contour zirconia milling game.

"Before we release a new product or new indication, we make sure it will perform to the expectations of the dentists and patients," says Colin Norman, director of Digital Materials at 3M ESPE. Keenly aware of industry concerns about zirconia's abrasiveness to natural dentition, the company extensively tested its newest indication for the market—the Lava™ All Zirconia restoration (www.3MESPE.com). "We ran a battery of in vitro tests before we felt confident enough to release Lava All Zirconia restorations," Norman says. Indicated for milling full-contour single crowns, three- to six-unit bridges, long-span bridges, and cantilever bridges, Lava All Zirconia is a new indication for the existing Lava zirconia milling material.

Acquafredda says tests of highly-polished, full-contour zirconia restorations have suggested they are actually less abrasive than conventional porcelain-fused-to-metal crowns and bridges. 3M ESPE's in vitro tests have shown that the wear characteristics exhibited by polished zirconia is surprising low, according to Norman. "It does not cause drastic wear of opposing enamel," he explains.

Unlike glass-based materials, chewing forces have not been found to make zirconia rougher. However, polishing of monolithic zirconia is required. One question that still remains unanswered is what happens to that restoration in the hands of the dentist. If the delivered final crown or bridge requires chairside adjustment, excessive grinding with the wrong instruments could change the bulk properties of the zirconia, leading to strength deterioration.

For laboratory owners whose clients request full-contour zirconia restorations, the anatomically contoured crowns and bridges can be surface-polished using standard polishing burs, followed by a polishing paste such as Zircon-Brite (DVA, Inc, www.dentalventures.com) and a fine-coated diamond bur to achieve the high shine. Norman claims the wear of a



Zahn Dental's full-contour solution



3M ESPE Lava All Zirconia restoration



Millenium Concept by One Source Dental



Ivoclar Vivadent's IPS e.max CAD-on



zirconia restoration is long lasting when a high-shine polish has been applied to its surface.

While there are surely more full-zirconia solutions to come, several are currently available or soon will be, including a new offering from Zahn Dental, 3M ESPE's Lava All-Zirconia, Zenostar® crowns and bridges by Wieland (www.wieland.com), and One Source Dental's Millenium Concept restorations (www.one-sourcedental.com).

Fusing All-Ceramic to Zirconia

At next month's Midwinter Meeting in Chicago, Ivoclar Vivadent (www.ivoclarvivadent.com) will launch the IPS e.max CAD-on, a new processing technique that enables dental laboratories to create zirconia-based IPS e.max bridges. This restorative solution will round out the IPS e.max line by offering a definitive esthetic solution for the posterior region that does not require veneering porcelain and is stronger than a pressed overstructure to zirconia.

The substructure is milled from IPS e.max ZirCAD zirconia and the veneering structure is milled from IPS e.max CAD lithium disilicate. "Instead of layering or pressing a feldspathic or fluorapatite glass, which is only about 100 MPa in strength, we now can mill out a much stronger full anatomical lithium disilicate overstructure for the top that is 360 MPa," says Jason Obrokta, marketing manager of All Ceramics at Ivoclar Vivadent. The two halves are fused with Crystall/Connect, a ceramic slurry that bonds the lithium disilicate and zirconia into a strong, solid structure. The company has developed a 40-mm lithium disilicate milling block for the Sirona inLab® MC XL milling unit (www.sirona.com). The newest Sirona software enables expanded applications for IPS e.max CAD and IPS e.max ZirCAD, which can be combined to create up to four-unit bridges.

Obrokta says it takes about 30 minutes to mill a three-unit bridge, depending on morphology, and a single 40-minute firing cycle to simultaneously crystallize the blue state IPS e.max CAD and fuse the ZirCAD framework. "What makes this solution efficient is that you can mill the IPS e.max CAD bridge while you are sintering the IPS e.max ZirCAD framework," Obrokta explains. "This gives laboratories the opportunity to turn around a three- to four-unit bridge in a few hours, if they are using the fast sintering Programat S1."

Midwinter attendees will also get the first look at an innovative way to characterize milled full-contour restorations without applying stains and glaze. Zahn Dental plans to introduce Hilla, a digital transfer "decal" film that fuses to any milled monolithic material to give the crown or bridge the depth of a highly esthetic, multilayered porcelain product. "It is a digital transfer on a printed porcelain film," Acquafredda explains. "The film is applied to the restoration, providing predictable characterization every time. It can be applied to porcelain, zirconia, or any all-ceramic material."

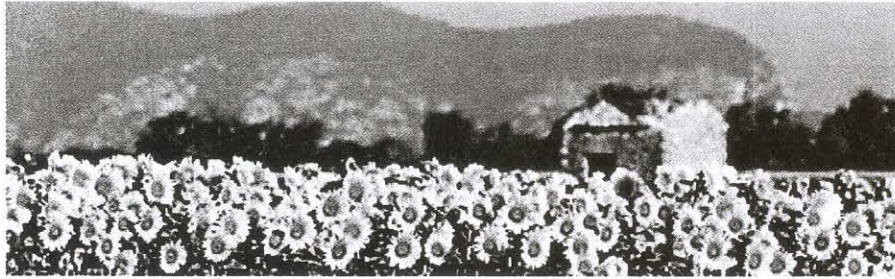
Now all dental laboratories need is to custom digitize each film by integrating the manufacture process with a digital shade device, and the ability to automate the application and fusing process for full automation.

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Substructures



Glidewell Dental Lab Introduces BruxZir® Solid Zirconia Crowns and Bridges

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(PRWEB) -- Glidewell Dental Lab (<http://www.glidewelldental.com>), a provider of dental laboratory services, has successfully launched its newest lab service, BruxZir® Solid Zirconia crowns and bridges. This groundbreaking dental product is a full-contour dental zirconia restoration with no porcelain overlay, making it virtually chip-proof.

The strength of BruxZir Solid Zirconia crowns and bridges makes it ideal for bruxers and grinders who have destroyed other dental restorations. Dentists may prescribe BruxZir from Glidewell Dental Lab instead of metal occlusal PFMs and full-cast metal dental restorations. While it is more brawn than beauty, dentists and their patients will be impressed with the esthetics of BruxZir Solid Zirconia when compared with traditional PFMs.

Why choose a monolithic dental restoration like BruxZir Solid Zirconia from your lab? When porcelain is fused to a metal or zirconia substructure, there is always the possibility that the two layers could separate. The best-case scenario is a small chip off the porcelain. The worst-case scenario is that the porcelain completely fractures, exposing the metal or zirconia substructure and requiring replacement. BruxZir is made of one homogenous FDA-registered dental material, zirconia, virtually eliminating the possibility of chipping.

Designed and milled in our lab using CAD/CAM technology, BruxZir Solid Zirconia crowns are sintered for more than 10 hours at 1,530 degrees Celsius, then glazed to a smooth surface. This tough dental restoration has rapidly gained popularity for posterior restorations, when superior strength is required but the patient is reluctant to have unsightly metal in their mouth.

Another great advantage of BruxZir crowns and bridges is that it can be used when dentists must under-restore for a number of reasons. In these cases, there have been very few options. Previously, the choices would have been limited to a cast-gold crown or a PFM with a metal occlusal. Now, thanks to BruxZir Solid Zirconia, there is a tooth-colored, more esthetic dental option from our lab for cases with limited interocclusal space.

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Slurry Wall Construction for Preventing Environmental Hazards

Contaminated soil and groundwater can lead to disastrous conclusions. One effort that can be utilized to impede the spread of environmental containment in the affected soil and groundwater is slurry wall construction. This formidable mix of bentonite, cement, and water, is typically installed in an excavated trench all the way to bedrock, and nestled in a pre-cut key-way. This key-way is cut into the bedrock to create a locking bond between the wall and the bedrock it is resting on, it also prevents any seepage of the contaminated or the controlled area. The complete remediation of contaminated soils and areas can be extremely costly and time consuming, slurry walls can step in as a viable and affordable option.

To complement dentists' work with BruxZir Solid Zirconia restorations, Glidewell Dental Lab's Dr. Michael DiTolla, in partnership with Axis Dental (800-355-5063 or www.axisdental.com), developed the BruxZir® Adjustment & Polishing Set. Due to BruxZir's monolithic nature, it is imperative to use dental burs designed for this unique dental zirconia crown and bridge material. The diamonds and polishers in this set are ideal for adjusting and polishing zirconia, and the diamonds work extremely well in cases in which it is necessary to cut off a dental zirconia crown.

Dentists who are seeking a more esthetic alternative to full-cast gold or metal occlusal PFM's can prescribe their first BruxZir Solid Zirconia crown or bridge restoration by calling our lab at 800-854-7256 to schedule an in-office case pickup. To learn more about the full benefits of BruxZir, visit www.BruxZir.com.

Glidewell Dental Lab is a privately owned corporation that has more than 40 years of history as a provider of high-quality dental restorations to dental practitioners nationwide. It has its own 53-person R&D team and is the most resourceful dental lab in the world. Its newly developed CAD/CAM processing capabilities are recognized as among the most advanced in the lab industry. To view our large selection of clinical videos, CE courses and our products and services, visit Glidewell Dental Lab (<http://www.glidewelldental.com>).

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Glidewell Dental Lab Introduces BruxZir® Solid Zirconia Crowns and Bridges

The strength of BruxZir Solid Zirconia crowns and bridges from Glidewell Dental Lab makes it ideal for bruxers and grinders who have destroyed other dental restorations. While BruxZir Solid Zirconia is more brawn than beauty, dentists and their patients will be impressed with the esthetics of this solid dental zirconia when compared with traditional PFMs.

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Bonding Agents: Is Convenience Overriding Strength?

Gordon and Paul's Clinical Bottom Line: The hundreds of articles on "bonding agents" attest to the scientific activity in this area over the past 50 years. The bonds created by etching enamel and placing a liquid resin followed by a conventional resin-based composite are remarkably strong and long lasting. However, clinicians have come to question the usefulness of reported dentin bonds values, knowing from clinical observation that restorative resin can be removed from some dentin-bonded surfaces relatively easily after a period of clinical service. It is well known that dentin bonding agents reduce or eliminate post-operative tooth sensitivity when used properly, and that has become the major reason many dentists use them. **The CR scientific and clinical teams offer the following clinically useful, comparative information on currently popular bonding agents.**

Bonding agents have been continuously evolving since the 1950s to satisfy the core demands of:

1. Adequate bond to enamel and dentin
2. Reduction of post-operative tooth sensitivity
3. Convenience of use and reduced cost
4. Resistance to oral environment
5. Biocompatibility

A popular yet controversial method classifies the various bonding agents into "generations" ranging from 1st–7th (with a possible emerging 8th):

- 1st–3rd generations have currently become obsolete.
- 4th and 5th generations (*total etch*) which use the "etch and rinse" technique are still considered by many to provide the highest bond strengths to enamel.
- 6th and 7th generation (*self-etch* or "etch and no rinse") claim to provide adequate bond strengths with greater simplification and ease of application leading to faster procedures.

CR researchers and clinicians evaluated 23 bonding agents from 13 companies, encompassing 4th–7th generations and other new products, to determine their bond strengths to dentin and enamel and to compare important clinical characteristics.

The following report provides answers to clinical questions; scientific research; clinical observations on popular bonding agents; results from a CR survey on bonding material use; and CR conclusions.

Continued on page 4

How To Survive a Bad Day at the Office—Disappearing Tooth/Root

Gordon and Paul's Clinical Bottom Line: If you have not experienced this unfortunate phenomenon, it will surely eventually happen to you. It usually happens at an inopportune time. Often you are accomplishing a routine type of tooth extraction and the tooth or root cannot be removed.

You must determine where the tooth or fragment has gone and decide whether you or someone else should remove it. Patients should be tactfully informed about your dilemma without overly frightening them. **Experienced CR Evaluators provide great guidance for you in this article.**



Radiograph of tooth in maxillary sinus

The first patient of a very busy, full-scheduled day requires a routine extraction. Anesthesia is complete; the patient is cooperative and comfortable; pressures are applied; and the tooth is delivered minus a root tip segment. The remnant is not visible in the socket and has just disappeared; not a rare experience! We have been there!

This article is full of tips for tip/tooth remnant management strategies for a positive outcome.

See page 4 for how to change distress to success.

Continued on page 4

First Look: Another Emerging New All-Ceramic Restoration in a Confusing Market

All-ceramic, zirconia-based crowns and fixed prostheses (*Cercon, IPS e.max ZirCAD, Everest, Lava*) have been available for several years, and research and global clinical experience shows results ranging from excellent to poor. Failures have been reported primarily in the layered external ceramics with minimal fracture of zirconia frameworks. Noritake CZR Press has shown notable success when placed over zirconia substructures (See *Clinicians Report November 2008*).

Monolithic lithium disilicate, IPS e.max CAD/Press (Ivoclar Vivadent), for single tooth restorations is receiving good research reports and clinical acceptance. More time is needed for further clinical observation. (See *Clinicians Report October 2009*).

The newest all-ceramic market entry for crowns and fixed prostheses is entirely zirconia without a secondary overlay. The concept was first introduced by Glidewell Laboratories as BruxZir (www.bruxzir.com).

These monolithic, homogeneous restorations are about 3–5 times stronger when tested in-vitro than other monolithic restorations and have been promoted for bruxism

and when patients demand esthetic restorations on molars. However, current all-zirconia restorations can be somewhat opaque and monotone. Watch the market expand on the already available 10 or more products. Dentists are actively requesting these restorations from laboratories.

TRAC Research (CR) has a clinical study under way on these restorations and will keep you informed as results come forth. At first look, these restorations appear to be promising for both single and multiple unit restorations. Use caution: only time, research, and clinical observation will validate or condemn them.




BruxZir all zirconia crowns

Best Products of 2011: CR BUYING GUIDE

Gordon and Paul's Clinical Bottom Line: For many years, Clinicians Report (previously CRA) has identified and published an annual list of the best materials, devices, and techniques that were evaluated that year. The 2011 guide also includes some classic products, study controls, and products that can make your practice faster, easier, better, and potentially more profitable. *Please note the following categories of products selected for this report.*

Products listed in this buying guide have been evaluated by the CR in-house science team and CR field evaluators. *Each product in this report is color-coded to identify why it has been included in this 2011 listing.* Please use the color code as you observe products.

- **GREEN**—CR Choice designates the best products from recent CR multi-product comparisons (marked with a ).
- **BLUE**—Additional highly-rated products from CR clinical use and in-house science evaluations during 2011.
- **RED**—Proven classics/controls: Long-term, well-proven, popular, and accepted classics; current top performers; or controls used to compare and evaluate the new products during 2011. *Some categories do not have classics/controls listed.*

The following categories identify areas in dentistry where CR conducted active product evaluations during 2011. Products are listed in alphabetical order. Classics/controls (where identified) are listed first followed by CR Choice products then new, highly-rated products. Products that are not listed may still be in testing or were not among the highest rated. *This is not an all-inclusive list. There are many other excellent products not tested this year among the various categories.*

ANESTHETICS & ACCESSORIES



OneTouch Advanced

Topical anesthetic gel (14% benzocaine, 2% butamben, 2% tetracaine hydrochloride) dispensed from bulk press-top container. \$20/32 gram jar

Hager Worldwide

www.hagerworldwide.com

70% of CR Evaluators would purchase this product.
Dental Hygiene Clinicians Report May/June 2011



Painless Steel Needles

Injection needle with 3-edge lancet tip and siliconized cannula for smooth entry. Plastic hub has bevel marking and color coding by size. \$15/Box of 100 (15¢ Each)

Transcendent

www.painless-steel.com

77% of CR Evaluators would purchase this product.



Septoject Evolution

Injection needle with scalpel-designed bevel for smooth penetration, less tissue displacement, and reduced deflection for better control. \$18/Box of 100 (18¢ Each)

Septodont USA

www.septodontusa.com

74% of CR Evaluators would purchase this product.

DIAGNOSIS & TREATMENT PLANNING

Caries Detection

Devices in this category have better accuracy than all previous models



CarieScan Pro

Occlusal caries detection system. Low voltage current evaluates mineral density of tooth and identifies occlusal lesions reliably and accurately. Device is easy and fast to use, but does not record appearance of tooth. \$3995/System (through Patterson)

www.us.cariescan.com

CarieScan

www.us.cariescan.com

Clinicians Report November 2011



Logicon

Interproximal caries detection software. Software analyzes grayscale of radiographs and detects interproximal lesions reliably and accurately. Only available with Carestream (Kodak) digital radiography. \$1995 / Software

Carestream Dental

www.carestreamdental.com

Clinicians Report November 2011



Soprolife

Occlusal caries detection system. Corded handpiece provides intraoral imaging and 450 nm LED blue light for reliable and accurate caries detection. Patient can view tooth for education, but caries indication is subtle. \$6470 / System

Acteon

www.us.acteongroup.com

Clinicians Report November 2011



Spectra Caries Detection Aid

Occlusal caries detection system. Corded handpiece emits 405 nm LED blue light to show porphyrin metabolites from cariogenic bacteria reliably and accurately. Color-coded map and number show lesion location and severity quickly, but no clinical view. \$4995 / System

Air Techniques

www.airtechniques.com


*Clinicians Report November 2011 and
Dental Hygiene Clinicians Report January/February 2011*

EDUCATION

Drug Interaction Resources

**Five digital drug information systems were compared in Clinicians Report August 2011*

Classics/Controls:

-  Lexicomp Online for Dentistry, Lexicomp www.lexi.com

- Little Dental Drug Booklet, Lexicomp www.lexi.com

Patient Education

**Eight digital systems were compared in Clinicians Report July 2011*

Classics/Controls:

- ADA Pamphlets, ADA www.ada.org
- CAESY, CAESY Education Systems www.caesy.com
- Dental Documents Booklet and Patient Education Video, Practical Clinical Courses www.pccdental.com
- Guru, Henry Schein www.henryschein.com
- Patient-Vu Platinum, Implant Vision www.implantvision.net
- Simple Patient Education (now on iPad), Practical Clinical Courses www.pccdental.com



DDS GP*

iPad delivered patient education with over 200 demonstration videos. Clinician can draw with a stylus to customize to fit practice, send, or print emails. \$400 / App


Kick Your Apps

www.kickyourapps.com

69% of CR Evaluators would purchase this product.
Clinicians Report July 2011

Self & Staff Education

Classics/Controls:

-  CR Dentistry Update and Clinicians Report, CR Foundation www.cliniciansreport.org
- Coding with Confidence: The "Go To" Dental Insurance Guide, Dr. Charles Blair and Associates www.drcharlesblair.com
- Dental Office Medical Emergencies, Lexicomp www.lexi.com
- Emergency Medicine in the Dental Office, Healthfirst www.healthfirst.com
- Preparing for Your Next Medical Emergency and other DVDs and Courses Practical Clinical Courses www.pccdental.com

Additional company contact information may be accessed free at www.cliniciansreport.org (click on "Dental List")

Surface Disinfection**GermXtra**

Presently not available in U.S.
Ethyl alcohol disinfectant requires 3-minute contact time. Clinically practical surface disinfectant that kills a resistant virus and bacteria within fresh human whole blood.
See *Clinicians Report March 2011* for availability outside the U.S.

Germiphene

www.germiphene.com

Clinicians Report March 2011**Lysol I.C. (Brand III)**

Replacement for Lysol II. The only clinically effective surface disinfectant presently available in the U.S. that kills a resistant virus and bacteria within fresh human whole blood, **but new formula requires 10-minute contact time.**
\$12/Can (sold through Sultan Healthcare)

Reckitt Benckiser

www.sultanhc.com

*Clinicians Report March 2011***Sterilization Pouches****Treo Self-Sealing Triple Check**

Sterilization pouch with external and internal monitoring for time, temperature, and steam. Meets CDC infection control guidelines.
\$13/Box of 200 3-1/2" x 9"
\$33/Box of 200 7-1/2" x 13"

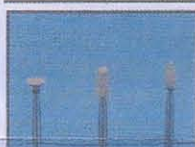
Benco Dental

www.benco.com

83% of CR Evaluators would purchase this product.

LABORATORY TECHNOLOGY**Finishers/Polishers for Ceramic****Classics/Controls:**

- Dialite, Brasseler USA www.brasselerusa.com
- Diashine Fine, VH Technologies www.vhtechnologies.com
- Zircon-Brite, Dental Ventures of America www.dentalventures.com

**Sin-Cer**

Sintered diamond rotary instruments in 7 shapes for initial porcelain and zirconia cutting and finishing. Cuts fast and lasts long.
\$33-\$44 Each

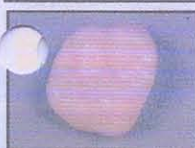
Dental Ventures of America

www.dentalventures.com

56% of CR Evaluators would purchase this product.

Fixed Prosthodontics**Classics/Controls:**

- Cercon, Dentsply Prosthetics www.dentsply.com
- CZR Press, Noritake www.noritake-dental.co.jp
- IPS e.max and Empress, Ivoclar Vivadent www.ivoclarvivadent.com
- Lava, 3M ESPE www.3mespe.com
- Pulse Interface, Jensen Dental www.jensendental.com
- VITA VM9/VM13, Vident www.vident.com

**BruxZir**

Zirconia block milled to full-contoured restoration. Available in many shades. Low cost and extreme strength.
\$99/Unit

Glidewell Laboratories

www.bruxzir.com

*Clinicians Report February 2011 and October 2011***Miscellaneous****FujiRock EP**

Die stone that is highly accurate for implants and other critical cases. Scanned well.
\$35/5 kg (11 pounds)
\$75/12 kg (26.4 pounds)

GC America

www.gcamerica.com

71% of CR Evaluators would purchase this product.

Clinicians Report February 2011**PrimoPattern LC**

Modeling resin that is syringe dispensed and light cured for implants, copy milling, CAD/CAM, and other fixed removable prosthesis.
Gel: \$99/5 3-gram syringes
Paste: \$99/30 gram jar

Primotec USA

www.primogroup.net

69% of CR Evaluators would purchase this product.

Removable Prosthodontics**Classics/Controls:**

- Coe-Soft, GC America www.gcamerica.com
- Ivocap, Ivoclar Vivadent www.ivoclarvivadent.com
- Sofreliner Tough, Tokuyama www.tokuyama-us.com
- PermaSoft, Dentsply Prosthetics www.dentsply.com

ORTHODONTICS**Classics/Controls:**

- Invisalign, Align Technology www.invisalign.com

**ClearCorrect**

Aligner that is clear and removable with support and submission online. Mid-course correction and fewer requirements for participation than other systems.
\$995/Full case
\$595/Limited case

ClearCorrect

www.clearcorrect.com

PEDIATRIC DENTISTRY*See also Restorative, Operative, Pediatric***NuSmile Crowns**

Pediatric esthetic (resin facing) stainless steel crowns in good selection of sizes, shapes, and shades.
\$18/Crown

NuSmile

www.nusmilecrowns.com

68% of CR Evaluators would purchase this product.

PERIODONTICS*See also Surgery: Oral & Maxillofacial***Dentapreg Splint**

Glass fiber reinforced strip pre-impregnated with light-curing resin, especially useful for trauma. Splint is tacky, pliable, and highly esthetic when cured. May be desirable to cover with resin.
\$299/Kit

Advanced Dental Materials

www.dentapreg.com

95% of CR Evaluators would purchase this product.

**PREVENTIVE DENTISTRY/
DENTAL HYGIENE****Air Slurry Polishers****Classics/Controls:**

- Air-Flow Handy 2+, EMS www.emsdent.com
- Prophy-Jet and CaviJet, Dentsply Professional www.dentsply.com

Desensitizers, Cervical**Profluorid L**

Liquid varnish with 5% Na F, 5% Ca F₂, and eugenol (obtundent) that is thin and esthetic after application.
\$65/Kit (4 gram bottle, brushes, and wells)
\$2/Unit-dose package

www.vocoamerica.com

VOCO

68% of CR Evaluators would purchase this product.

*Clinicians Report November 2011 and**Dental Hygiene Clinicians Report July/August 2011***Fluoride****Classics/Controls:**

- Armuor Rx, Massco Dental www.masscodental.net
- Iris Varnish, Benco Dental www.benco.com
- VarnishAmerica Original and White, Medical Products Labs www.mplusa.com

Floss/Interdental Cleaners**Classics/Controls:**

- Opalpix, Ultradent www.ultradent.com

**GUM Eez-Thru Angled Flossers**

Popular flosser has improved angle for better access to posterior teeth with pick and mint flavor.
\$15/Box of 48 2-packs

Sunstar Americas

www.gumbrand.com

69% of CR Evaluators would purchase this product.

Dental Hygiene Clinicians Report July/August 2011**Oral-B Glide Pro-Health Clinical Protection Floss**

Floss now with natural wax for improved grip and to include mild mint flavor. Slides easily into tight contacts without shredding.

\$26/Case of 72

Procter & Gamble

www.dental.com

72% of CR Evaluators would purchase this product.

*Dental Hygiene Clinicians Report May/June 2011***Prophylaxis****Classics/Controls:**

- Next, Preventech www.preventech.com
- NUPRO, Dentsply Professional www.dentsply.com

**Mystic Cup Prophy Angle**

Prophy angle that is latex disposable and has unique diamond-shaped bumps on outer surface of cup for interproximal and lingual cleaning.
\$50/Bag of 100

ProphyMagic

www.prophy.com

61% of CR Evaluators would purchase this product.

Dental Hygiene Clinicians Report May/June 2011**STARbrush**

Rotary cleaning brush helpful for hard-to-access areas. Alternative for cleaning pits and fissures in patients that do not tolerate air slurry polishing.
\$29/Pack of 30

Ultradent

www.ultradent.com

76% of CR Evaluators would purchase this product.

*Clinicians Report June 2011 and**Dental Hygiene Clinicians Report July/August 2011*

National Association of Dental Laboratories

October 2011

Vol 28 No. 8 \$10.00

www.jdtunbound.co

JDT

She Wears The

CROWN

Confessions of an NBC Recognized Graduate

NADL: A Love Story

Journal of Dental Technology's

WOW!

2011

WOW! Products Awards

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THE MAKING OF AN

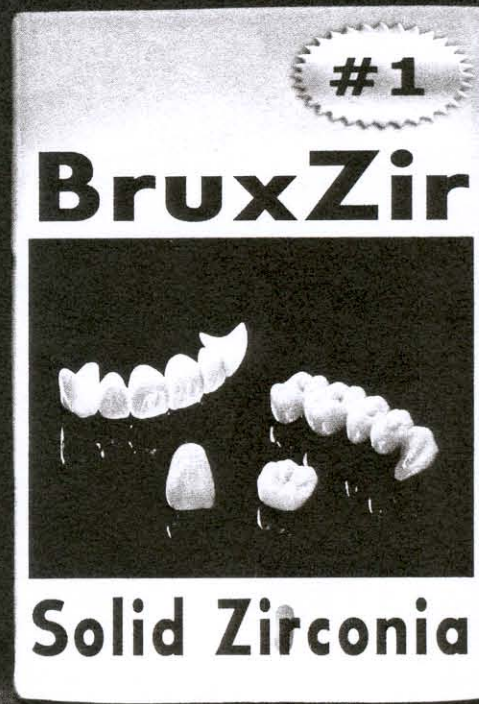
ASSOCIATION

My CDT Journey

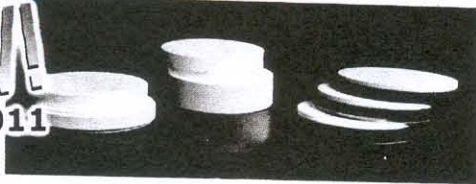
Also:

*Learn a simple technique for
shade matching centrals.*

**Meet your NADL and NBC
candidates for election.**



Journal of Dental Technology's
WOW!
2011



"The new standard for demanding situations like bruxers, implant restorations and areas with limited occlusal space."

— WOW! Nomination

BruXZir Solid Zirconia from Glidewell Laboratories is a monolithic zirconia restoration with no porcelain overlay. It is indicated for crowns, bridges, screw-retained implant crowns, inlays or onlays. Exhibits class-leading durability with up to 1465 MPa of flexural strength and displays translucency and color similar to natural dentition. BruxZir is also a more esthetic alternative to metal-occlusal PFMs or cast gold restorations.

Cost: Starting at \$79 for unfinished milled crown, \$54,995 for complete BruxZir Milling System

Contact: 888-303-3975, robin.bartolo@glidewelldental.com or www.glidewelldirect.com

Saves Time: CAD/CAM processing cuts down on labor, with an average milling time for a crown of just nine minutes.

Saves Money: Because BruxZir is made of one homogeneous material, the possibility of chipping is nearly eliminated, meaning fewer remakes.

Improves Quality: Provides a stronger and more durable cementable restoration with precision fit and occlusion.

WOW! Factor: "Lowest fracture rate and fastest-growing product in Glidewell history." — WOW! Nomination



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AUTHORIZED BRUXZIR LABS



What is an Authorized BruxZir Lab?

An Authorized BruxZir Lab is a dental laboratory that Glidewell Laboratories can guarantee uses Authentic BruxZir Solid Zirconia for the fabrication of solid zirconia dental restorations. The labs listed below have been deemed an authorized distributor of BruxZir Solid Zirconia by Glidewell Laboratories. Glidewell Laboratories offers a variety of ways to incorporate BruxZir Solid Zirconia restorations into your laboratory. Fill out the form below if you are a dentist and would like more information about BruxZir or if you are a dental laboratory and you'd like to learn about the benefits of becoming an Authorized BruxZir Lab.

Dentists

Dental Laboratories

Dentists

To prescribe BruxZir for your patients, SELECT A LAB FROM THE LIST BELOW and call to schedule your case pick-up.

** Authorized BruxZir Zirconia Milling System On-Site.

NAME	CITY	STATE	PHONE	WEBSITE
Barksdale Dental Lab	Athens	AL	256-232-1772	None Available
Burdette Dental Lab Inc.	Birmingham	AL	800-624-5301	www.burdettedental.com
Oral Arts Dental Laboratories, Inc. **	Huntsville	AL	800-354-2075	www.oralartsdental.com
Parkway Dental Lab	Opelika	AL	800-239-3512	None Available
Scrimshire Dental Studio	Huntsville	AL	800-633-2912	www.scrimshire.com
Walker Dental Laboratory, Inc.	Decatur	AL	800-727-0705	None Available
Green Dental Laboratories, Inc.	Heber Springs	AR	800-247-1365	www.greendentalab.com
Continental Dental Laboratory	Phoenix	AZ	800-695-0155	www.continentalab.com
Dentek Dental Laboratory, Inc.	Scottsdale	AZ	877-433-6835	www.dentekdental.com
Lafayette Dental Lab	Phoenix	AZ	800-996-9482	www.lafayettedentalab.com
Lakeview Dental Ceramics	Lake Havasu City	AZ	928-855-3388	None Available
New West Dental Ceramics **	Lake Havasu City	AZ	800-321-1614	www.newwestlab.com
A & M Dental Laboratories **	Santa Ana	CA	800-487-8051	www.aandmdental.com
Advanced Dental Technology **	Chula Vista	CA	619-656-9422	None Available
Atlas Dental	Gardena	CA	866-517-2233	www.atlasdentalab.com
BDL Prosthetics **	Irvine	CA	800-411-9723	www.bdlprosthetics.com
Beverly Hills Dental Studio	Beverly Hills	CA	800-215-5544	www.beverlyhillsdentalstudio.com
Bigler Dental Ceramics **	Tustin	CA	714-832-9251	www.biglerdental.com
Continental Dental Laboratories	Torrance	CA	800-443-8048	www.continentaldental.com
Creative Porcelain	Oakland	CA	800-470-4085	None Available
Dental Masters Laboratory	Santa Rosa	CA	800-368-8482	www.dentalmasters.com
G & H Dental Arts, Inc. **	Torrance	CA	800-548-3384	www.gandhdental.com
Glidewell Laboratories **	Newport Beach	CA	800-854-7256	www.glidewelldental.com
Great Smile Dental Lab	Northridge	CA	877-773-8815	None Available
Iverson Dental Laboratories	Riverside	CA	800-334-2057	www.iversondental-labs.com
Mr. Crown Dental Studio	Santa Ana	CA	800-515-6926	www.mrcrown.com

Nash Dental Lab, Inc.	Temecula	CA	877-528-2522	www.nashdentallab.com
NEO Milling Center	Cerritos	CA	562-404-4048	www.neodentallab.com
Nichols Dental Lab	Glendale	CA	800-936-8552	www.nicholsdentallab.com
Noel Laboratories, Inc.	San Luis Obispo	CA	800-575-4442	None Available
PCS Dental Lab	Foster City	CA	650-349-1085	www.pcsdentallab.com
Perfect Smile Dental Ceramics, Inc.	San Diego	CA	877-729-5282	www.sandiegodentallab.com
Polaris Dental Laboratory **	Anaheim	CA	866-937-1563	www.polarisdentallab.com
Precision Ceramics Dental Laboratory **	Montclair	CA	800-223-6322	www.pcdl-usa.com
Riverside Dental Ceramics **	Riverside	CA	800-321-9943	www.riversidelab.com
Robertson Dental Lab	Lompoc	CA	800-585-3111	www.robertsondentallab.com
San Ramon Dental Lab	San Ramon	CA	800-834-4522	None Available
Gnathodontics, Ltd.	Lakewood	CO	800-234-9515	www.gnatho.com
Zinser Dental Lab, Inc.	Westminster	CO	303-650-1994	www.zinserdental.com
Dodd Dental Laboratories	New Castle	DE	800-441-9005	www.doddlab.com
Carlos Ceramics Dental Lab	Miami	FL	305-661-0260	None Available
DigiTech Dental Restorations	Doral	FL	888-336-1301	www.digitechlab.com
Fox Dental Laboratory	Tampa	FL	800-282-9054	www.foxdentallab.com
Hennessy Dental Laboratory	Riviera Beach	FL	800-694-6862	www.hennessydental.com
Knight Dental Group	Oldsmar	FL	800-359-2043	www.knightdentalgroup.com
TLC Dental Laboratory	Orlando	FL	800-262-2547	www.tlclab.com
New Image Dental Laboratory **	Morrow	GA	800-233-6785	www.newimagedl.com
Oral Arts Dental Lab Georgia	Chamblee	GA	800-229-7645	www.oralarts.com
P & W Dental Studios LLC	Cumming	GA	877-955-8757	None Available
Ridge Craft Dental Laboratory	Lagrange	GA	800-516-0281	None Available
The Lab 2000, Inc.	Columbus	GA	800-239-3947	www.thelab2000.com
Colonial Dental Studio	Davenport	IA	800-397-1311	www.colonialdentalstudio.com
Oral Arts Dental Lab Iowa	Dubuque	IA	800-747-3522	www.oralartslab.com
Smart Choice Dental Lab	Davenport	IA	877-650-7627	www.smartchoicelab.com
AOC Dental	Hayden	ID	800-729-1593	www.aocdental.com
Artistic Dental Studio, Inc.	Bolingbrook	IL	800-755-0412	www.artisticdentalstudio.com
Dental Arts Laboratories, Inc.	Peoria	IL	800-322-2213	www.dentalartslab.com
Distinctive Dental Studio, Ltd.	Naperville	IL	800-552-7890	www.ddsitdlab.com
Ottawa Dental Lab	Ottawa	IL	800-851-8239	www.ottawadentallab.com
Prosthotech **	Sugar Grove	IL	630-466-8333	www.prosthotech.com
Rockert Dental Studio	Wheaton	IL	800-665-1401	www.rockertdental.com
Vitality Dental Arts	Arlington Heights	IL	800-399-0705	www.vitalitydentalarts.com
Ito & Koby Dental Studio	Indianapolis	IN	800-288-6684	www.itoandkoby.com
Myron's Dental Laboratory	Kansas City	KS	800-359-7111	www.myronsdentallab.com
Keller Dental Laboratory	Louisville	KY	800-292-1894	www.kellerlab.com
Crown Dental Studio	Shreveport	LA	800-551-8157	www.crowndentalstudio.com
Pfisterer-Auderer Dental Lab	Metairie	LA	800-288-8910	www.pfistererdental.com
Arcari Dental Lab	Wakefield	MA	781-213-3434	www.arcaridentallab.com
Aronovitch Dental Laboratory	Owings Mills	MD	800-441-6647	www.aronovitch.net
Eliason Dental Lab	Portland	ME	800-498-7881	www.eliasonlab.com

Apex Dental Milling	Ann Arbor	MI	866-755-4236	www.apexdentalmilling.com
Artistic Dental Lab **	Allen Park	MI	800-437-3261	None Available
Davison Dental Lab	Flint	MI	800-340-6971	None Available
Dental Art Laboratories	Lansing	MI	800-444-3744	www.dentalartlab.com
D.H. Baker Dental Laboratory	Traverse City	MI	800-946-8880	www.dhbaker.com
Olson Dental Laboratory	Clinton Township	MI	800-482-3166	www.olsondentallab.com
Xcel Dental Studio	Flint	MI	810-733-0909	None Available
Excel Dental Studios Inc.	Minneapolis	MN	800-328-2568	None Available
Harrison Dental Studio	West St. Paul	MN	800-899-3264	www.harrisondentalstudio.com
Saber Dental Studio	Brooklyn Center	MN	800-264-3903	www.saberdental.com
Thoele Dental Laboratory	Waite Park	MN	800-899-1115	www.thoeledental.com
Trachsel Dental Studio Inc. **	Rochester	MN	800-831-2362	www.trachsel dentalstudio.com
Webster Dental Laboratory	St. Paul	MN	800-621-3350	None Available
Wornson-Polzin Dental Lab	North Mankato	MN	800-950-5079	www.wpdentallab.com
Keller Laboratories, Inc. **	Fenton	MO	800-325-3056	www.kellerlab.com
Mallow-Tru Dental Studio	Lee's Summit	MO	800-444-3685	www.mallowtru.com
Stewart Dental Laboratories	Columbia	MO	866-724-5509	www.stewartlab.com
Oral Tech Dental Laboratory	Pearl	MS	800-321-6201	www.oraltech.com
Western Dental Arts	Billings	MT	406-652-1652	www.westerndentalarts.com
Carolina Outsource Inc.	Charlotte	NC	704-814-0644	None Available
Drake Precision Dental Laboratory	Charlotte	NC	800-476-2771	www.drakelab.com
Natural Ceramics Inc.	Fayetteville	NC	910-425-8296	None Available
The Freeman Center	Stallings	NC	800-659-7636	www.freemancenter.com
Kiess Kraft Dental Laboratory	Omaha	NE	800-553-9522	www.kiesskraft.com
H & O Dental Laboratory	Manchester	NH	800-543-4312	www.h-odental.com
Excel Berger Dental Laboratory	North Brunswick	NJ	800-438-3384	www.excelberger.com
Ideal Dental Laboratory	Albuquerque	NM	800-998-6684	www.ideal dental.com
Digital Dental Studio	Henderson	NV	702-992-4055	None Available
Las Vegas Digital Dental Solutions **	Las Vegas	NV	800-936-1848	www.lvddslab.com
Las Vegas Dental Studio	Las Vegas	NV	800-455-1598	www.lasvegasdentalstudio.com
Creo Dental	New York	NY	212-302-3860	www.creodental.com
Elegant Dental Laboratories	Brooklyn	NY	877-335-5221	www.elegantlab.com
MobileTek Dental Labs	New York	NY	917-747-7519	mobiletek dental.myshopify.com
Smile Design Dental Laboratory	Port Washington	NY	516-472-0890	www.smiledesignlab.com
AccuTech Dental Lab	Reynoldsburg	OH	614-751-9888	www.accutechdentallab.com
John Hagler, CDT	New Albany	OH	614-560-5667	None Available
New Era Dental Arts, LLC	Sylvania	OH	800-971-8201	www.newerada.com
Northwest Ceramics Inc.	Columbus	OH	614-451-9597	None Available
ROE Dental Laboratory	Garfield Heights	OH	216-663-2233	www.roedentallab.com
Salem Dental Laboratory	Cleveland	OH	800-747-5577	www.salem lab.com
Tooth Fairy Dental Lab	Findlay	OH	419-429-8181	None Available
Fluid Dental Laboratory	Tulsa	OK	800-331-4650	www.fluddentallab.com
Great Southwest Dental Laboratory	Oklahoma City	OK	800-777-1522	www.gswdental.com
Marty Hall Dental Lab	Broken Arrow	OK	866-207-0858	None Available

Applegate Dental Ceramics	Medford	OR	541-772-7729	www.applegatedentalceramics.com
Albensi Laboratories**	Irwin	PA	800-734-3064	www.albensilab.com
Innovative Dental Arts	North Huntingdon	PA	866-305-5434	www.innovativedentalarts.com
Maverick Dental Laboratories **	Export	PA	866-294-7444	www.maverickdental.com
Thayer Dental Laboratory	Mechanicsburg	PA	800-382-1240	www.thayerdental.com
Sherer Dental Laboratory	Rock Hill	SC	800-845-1116	www.shererdentallab.com
Bauer Dental Studio	Mitchell	SD	800-952-3334	www.bauerdental.com
Dental Prosthetics Lab	Clarksville	TN	931-647-2917	None Available
Peterman Dental Lab	Nashville	TN	800-476-1670	www.petermandental.com
R-dent Dental Laboratory	Bartlett	TN	877-733-6848	www.rdentlab.com
Rogers' Dental Laboratories	Athens	TN	800-278-6046	www.rogersfamilylab.com
S & H Crown & Bridge Inc.	Knoxville	TN	888-506-1263	None Available
Wade Dental Ceramics	Maryville	TN	865-982-4324	None Available
Affordable Cosmetic Laboratories	Arlington	TX	817-792-3806	www.affdental.com
Crystal Dental Ceramics	Richardson	TX	972-680-1660	None Available
Dental Dynamics Laboratory Inc.	Arlington	TX	817-792-3000	www.dentallabdynamics.com
Oral Designs Dental Laboratory, Inc. **	San Antonio	TX	800-292-5516	www.oraldesigns.com
PCB Dental Lab	Richardson	TX	972-671-3894	None Available
Stern Empire Dental Laboratory	Houston	TX	800-229-0214	www.sternempire.com
Stern Reed Associates Dental Laboratory	Addison	TX	800-888-8341	www.sternreed.com
Stern Tyler Dental Laboratory	Tyler	TX	800-926-1318	www.sterntyler.com
Arrowhead Dental Laboratory	Sandy	UT	800-800-7200	www.arrowheaddental.com
Crown Laboratories Inc.	Sandy	UT	800-574-1911	None Available
Crystarr Dental Design	Salt Lake City	UT	800-343-2488	None Available
Evolution Dental Studio	Draper	UT	801-432-7446	None Available
Precision Milling Center	West Valley	UT	877-810-6210	www.precisionmillingcenter.com
Treasure Dental Studio	Salt Lake City	UT	800-358-6444	www.treasuredentalstudio.com
Via Digital Solutions **	Sandy	UT	888-484-6842	www.viadental.com
Apex Dental Laboratory	Midlothian	VA	804-763-0420	www.apexdentallab.com
Art Dental Lab	Chantilly	VA	888-645-7541	www.artdentallab.com
Dominion Milling Center	Richmond	VA	877-285-5285	www.3d-dental.com
NexTek Dental Studios	Manassas	VA	800-678-7354	www.nextek.us
P & R Dental Lab Inc.	Alexandria	VA	703-916-8866	None Available
The Point Dental Studio, LLC	West Point	VA	804-337-5477	www.thepointdentalstudio.com
McElvain Dental Laboratory	Colville	WA	509-684-8620	None Available
Pacific Dental Arts Inc.	Olympia	WA	877-438-1882	www.pda-lab.com
Ziemek Aesthetic Dental Lab **	Olympia	WA	866-943-6357	www.ziemekdentallab.com
Haag Dental Laboratory	Kenosha	WI	262-694-4732	None Available
Saber Dental Studio	Waukesha	WI	800-365-3210	www.saberdentalstudio.com
Midtown Dental Laboratory	Charleston	WV	800-992-3368	www.midtowndental.com

INTERNATIONAL LABS SERVICING THE U.S.

NAME	CITY	STATE / COUNTRY	PHONE	WEBSITE
Smith-Sterling Dental Laboratories **	Cartago	Costa Rica	800-479-5203	www.smithsterling.com

Pacific Edge Dental Laboratories **	Baja Calif.	Mexico	800-889-9323	www.pacificedgelab.com
EPS Dental Studio	Cuernavaca	MO, Mexico	347-246-5203	www.eps.com.mx

CANADA

NAME	CITY	STATE / COUNTRY	PHONE	WEBSITE
Highland Dental Lab	Calgary	AB, Canada	800-504-3199	www.highlanddentallab.com
Hollywood Smiles Dental Laboratory Ltd.	Burnaby	BC, Canada	604-939-8118	www.hollywoodsmilesdentallab.com
Premium Dental Laboratories Ltd.	Burnaby	BC, Canada	604-294-2881	None Available
Protec Dental Laboratories Ltd. **	Vancouver	BC, Canada	800-663-5488	www.protecdental.com
Impact Dental Laboratory	Ottawa	ON, Canada	800-668-4691	www.impact-dental.com
Smile Designs	Guelph	ON, Canada	519-836-1100	www.smiledesigns.ca
Carlton Dental Labs	Prince Albert	SK, Canada	800-667-5525	www.carltondentallabs.com

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Stoneglass Industries	Homebush, NSW	Australia / New Zealand	+61 2 9764 1036	www.stoneglass.com.au

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Dental Laboratories

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Ways to Become an Authorized BruxZir Lab



BruxZir Authorized Lab Brochure

Glidewell Laboratories offers a variety of ways to incorporate BruxZir Solid Zirconia restorations into your laboratory. We can also provide BruxZir marketing support to help your lab gain new business, as well as customized lab-based BruxZir training and technical assistance. See brochure for details.

Buy BruxZir Milling Blanks



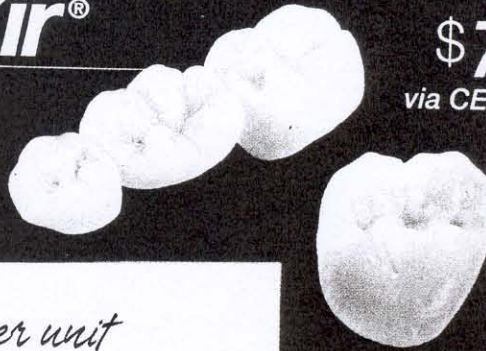
If you own a milling system that accepts 98 mm diameter blocks, purchase the special BruxZir high translucent zirconia blanks. They are available in the following thicknesses: 12 mm, 15 mm, 20 mm, or 25 mm. Fill out the form below for more information including pricing.

Big Savings for CEREC® Connect Users

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SOLID ZIRCONIA
CROWNS & BRIDGES

\$79/unit
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v Save \$20 per unit

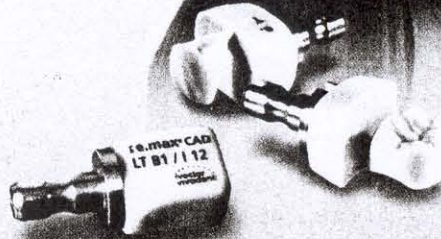
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impression material & tray*

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EXHIBIT V (page 1 of 1)

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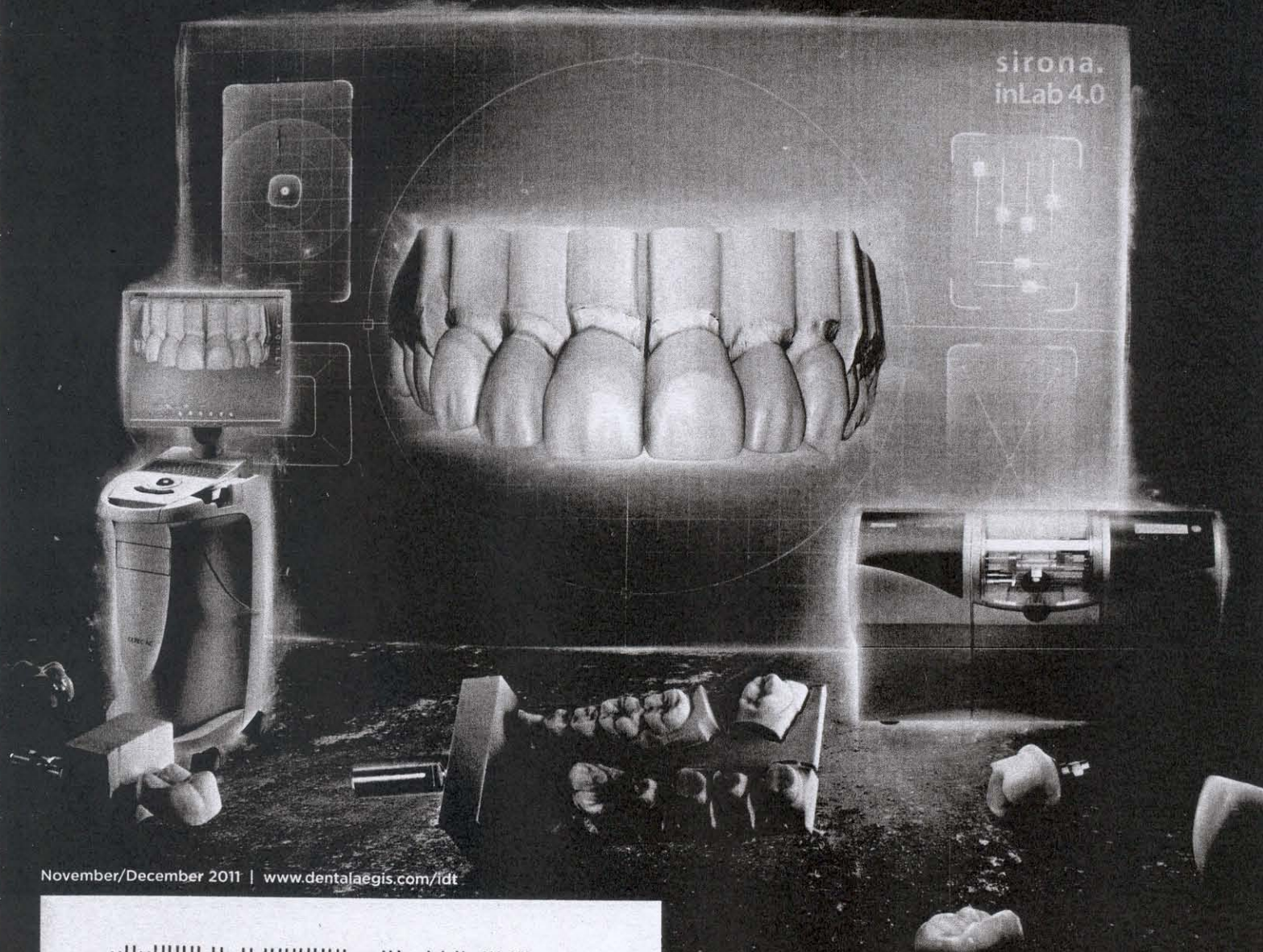


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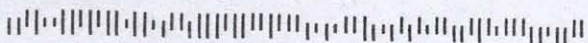
Inside Dental Technology

Product *iNavigator* 2011

A 360° guide to this year's
new products and services.



November/December 2011 | www.dentalaegis.com/ldt



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EXHIBIT W (page 1 of 3)

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iNavigator Top Picks

IDT's Editorial Advisory Board's game-changing products



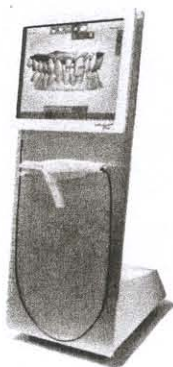
Patrick Tessier, BSME, MBA

3Shape TRIOS®

The big breakthrough I see with the Trios is its user-friendly interface. This is an Apple Macintosh in a world of IBM PCs."

dentalaegis.com/t112

(Circle 30 on Reader Service Card)



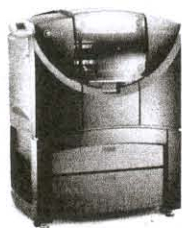
Larry Stites

Eden260V™

My Objet 260V printer is definitely the most versatile piece of technology we have here at Allure Dental Studio. It is the ability of the printer to deliver multiple materials simultaneously that sets it apart from the rest. This new class of materials, called digital materials, will open up a wider range of dental applications in the future."

dentalaegis.com/t113

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Rick Sonntag, RDT

Initial™ IQ Lustre Pastes NF

GC Lustre Pastes have been a game-changer in this new era of monolithic restorations. Unlike conventional stains and glazes, it allows a ceramist to mimic natural shades, characterizations, and translucency in one application, without the need for complex layering."

dentalaegis.com/t114

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Ed Flocken, CDT

Zircon-Brite

This polishing compound works better than diamond paste for polishing IPS e.max Press and IPS e.max Ceram. We used to require two glaze finish firings; with Zircon-Brite we only need one firing and still retain detailed texture and surface morphology."

dentalaegis.com/t118

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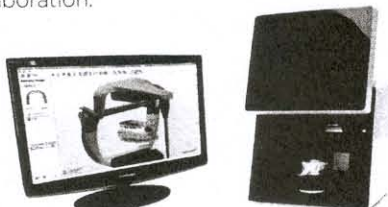
David Avery, CDT

Dental System™ 2012

Without a doubt 3Shape's newest software and D810 scanner package is a huge leap forward in dentist/laboratory collaboration."

dentalaegis.com/t122

(Circle 34 on Reader Service Card)



Steve Hoofard, CDT

Nautilus® CC Plus

Bego's Nautilus induction casting machine is a German-manufactured product that works quickly and flawlessly."

dentalaegis.com/t116

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INAVIGATOR TOP PICKS



Joe Weisz, BS, CDT

D76Plus 3D Printer

By far, the most innovative and trend-setting products I have seen are 3D printers. For smaller labs, the compact and versatile Solidscape D76Plus is a good choice. Additive technology is the last piece of the digital puzzle and will be more common in the near future as more dentists adopt the use of virtual impressions."

dentalaegis.com/t119

(Circle 36 on Reader Service Card)



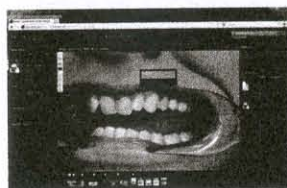
Greg Harris

Bright Squid

This Internet-based software interface should be considered a technological breakthrough. It works with restorative, surgical, and laboratory software to tie all parties together to ensure that patients' expectations are met."

dentalaegis.com/t120

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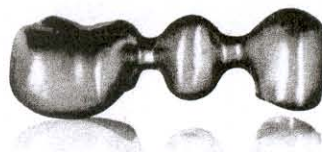
Luke Kahng, CDT

Nobel Biocare Titanium Substructures

With the gold market skyrocketing and no sign that prices will come down soon, we need to look at new products that offer handling efficiency and cost-effectiveness. I truly believe milled-titanium frameworks are an excellent alternative option to gold-based alloys."

dentalaegis.com/t121

(Circle 38 on Reader Service Card)



Brad Jones, FAACD

IPS e.max®

IPS e.max is a breakthrough innovation for our industry. This material is able to emulate the optical qualities found in a natural tooth while offering the strength and durability I need to confidently guarantee my restorations' longevity against breakage."

dentalaegis.com/t115

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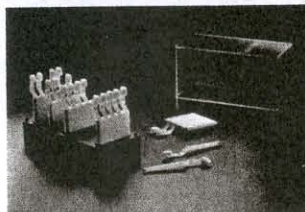
Joshua Polansky, BA, MDC

My Shade Guide

I love Smile Line's new custom shade guide. It allows me to create 'my shades' for custom shades and give them to my clients for shade-taking when I'm not available."

dentalaegis.com/t123

(Circle 40 on Reader Service Card)



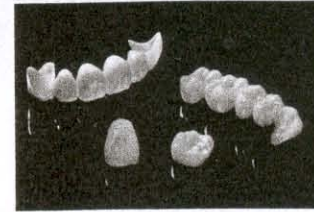
Ron Woosley, CDT

Glidewell BruxZir®

My vote is for BruxZir. With the price of gold continuing to rise, this is the best choice for posterior restorations. This product will forever change the industry."

dentalaegis.com/t124

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U.S. National Library of Medicine
NIH National Institutes of Health

URL of this page: <http://www.nlm.nih.gov/medlineplus/ency/article/001413.htm>

Bruxism

Bruxism is when you clench (tightly hold your top and bottom teeth together) or grind (slide your teeth back and forth over each other) your teeth.

Causes

People can clench and grind without being aware of it during both the day and night, although sleep-related bruxism is often the bigger problem because it is harder to control.

The cause of bruxism is not completely agreed upon, but daily stress may be the trigger in many people. Some people probably clench their teeth and never feel symptoms. Whether or not bruxism causes pain and other problems may be a complicated mix of factors:

- How much stress you are under
- How long and tightly you clench and grind
- Whether your teeth are misaligned
- Your posture
- Your ability to relax
- Your diet
- Your sleeping habits

Each person is probably different.

Symptoms

Clenching the teeth puts pressure on the muscles, tissues, and other structures around your jaw. The symptoms can cause temporomandibular joint problems (TMJ).

Grinding can wear down your teeth. Grinding can be noisy enough at night to bother sleeping partners.

Symptoms include:

- Anxiety, stress, and tension
- Depression
- Earache (due in part because the structures of the temporomandibular joint are very close to the ear canal, and because you can feel pain in a different location than its source; this is called referred pain)
- Eating disorders
- Headache
- Hot, cold, or sweet sensitivity in the teeth
- Insomnia
- Sore or painful jaw

EXHIBIT X (page 1 of 4)

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Exams and Tests

An examination can rule out other disorders that may cause similar jaw pain or ear pain, including:

- Dental disorders
- Ear disorders such as ear infections
- Problems with the temporomandibular joint (TMJ)

You may have a history of significant stress and tension.

Treatment

The goals of treatment are to reduce pain, prevent permanent damage to the teeth, and reduce clenching as much as possible.

To help relieve pain, there are many self-care steps you can take at home. For example:

- Apply ice or wet heat to sore jaw muscles. Either can have a beneficial effect.
- Avoid eating hard foods like nuts, candies, steak.
- Drink plenty of water every day.
- Get plenty of sleep.
- Learn physical therapy stretching exercises to help restore a normal balance to the action of the muscles and joints on each side of the head.
- Massage the muscles of the neck, shoulders, and face. Search carefully for small, painful nodules called trigger points that can cause pain throughout the head and face.
- Relax your face and jaw muscles throughout the day. The goal is to make facial relaxation a habit.
- Try to reduce your daily stress and learn relaxation techniques.

To prevent damage to the teeth, mouth guards or appliances (splints) have been used since the 1930s to treat teeth grinding, clenching, and TMJ disorders. A splint may help protect the teeth from the pressure of clenching.

A splint may also help reduce clenching, but some people find that it makes their clenching worse. In others, the symptoms go away as long as they use the splint, but pain returns when they stop or the splint loses its effectiveness over time.

There are many different types of splints. Some fit over the top teeth, some on the bottom. They may be designed to keep your jaw in a more relaxed position or provide some other function. If one type doesn't work, another may.

For example, a splint called the NTI-tss fits over just the front teeth. The idea is to keep all of your back teeth (molars) completely separated, under the theory that most clenching is done on these back teeth. With the NTI, the only contact is between the splint and a bottom front tooth.

As a next phase after splint therapy, orthodontic adjustment of the bite pattern may help some people. Surgery should be considered a last resort.

Finally, there have been many approaches to try to help people unlearn their clenching behaviors. These are more successful for daytime clenching, since nighttime clenching cannot be consciously stopped.

In some people, just relaxing and modifying daytime behavior is enough to reduce nighttime bruxism. Methods to directly modify nighttime clenching have not been well studied. They include biofeedback devices, self-hypnosis, and other alternative therapies.

Outlook (Prognosis)

Bruxism is not a dangerous disorder. However, it can cause permanent damage to the teeth and uncomfortable jaw pain, headaches, or ear pain.

Possible Complications

- Depression
- Eating disorders
- Insomnia
- Increased dental or TMJ problems

Nightly grinding can awaken roommates and sleeping partners.

When to Contact a Medical Professional

There is no recognized TMJ specialty in dentistry. See a dentist immediately if you are having trouble eating or opening your mouth. Keep in mind that a wide variety of possible conditions can cause TMJ symptoms, from arthritis to whiplash injuries. Therefore, see your dentist for a full evaluation if self-care measures do not help within several weeks.

Grinding and clenching does not fall clearly into one medical disciplines. For a massage-based approach, look for a massage therapist trained in trigger point therapy, neuromuscular therapy, or clinical massage.

Dentists who have more experience in evaluating and treating TMJ disorders will typically take x-rays and prescribe a mouth guard. Surgery is now considered a last resort for TMJ.

Prevention

Stress reduction and anxiety management may reduce bruxism in people prone to the condition.

Alternative Names

Teeth grinding and clenching

Update Date: 2/22/2010

Updated by: Jack D Rosenberg, DDS, Advanced Dental Care, Palm Beach Gardens, FL. Review provided by VeriMed Healthcare Network. Also reviewed by David Zieve, M.D., MHA, Medical Director, A.D.A.M., Inc.



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